PENGARUH KONSENTRASI GIBERELIN (GA_3) DAN DOSIS $CaCO_3$ PADA BENIH SIMPANAN TERHADAP PERKECAMBAHAN, PERTUMBUHAN VEGETATIF, DAN HASIL TANAMAN PADI (*Oryza sativa* L.)

Oleh: Michelle Shandiana

Dibimbing oleh: Ami Suryawati dan Endah Wahyurini

ABSTRAK

Perkecambahan benih padi dengan viabilitas rendah dapat ditingkatkan dengan perlakuan perendaman giberelin. Kalsium pada $CaCO_3$ bermanfaat terhadap pertumbuhan vegetatif dan hasil tanaman. Tujuan penelitian yaitu (1) untuk mengetahui pengaruh konsentrasi giberelin terhadap perkecambahan dan (2) untuk mengetahui interaksi antara konsentrasi giberelin dan dosis $CaCO_3$ terhadap pertumbuhan vegetatif dan hasil. Penelitian menggunakan RAL dengan 2 percobaan. Percobaan I: pengaruh konsentrasi giberelin terhadap perkecambahan benih (0, 150, 200, 250 ppm) dulang 5 kali. Percobaan II: perlakuan konsentrasi giberelin sebagai faktor pertama dan dosis $CaCO_3$ sebagai faktor kedua (0, 6, 12 g/polybag) dengan 3 kali ulangan terhadap pertumbuhan vegetatif dan hasil tanaman padi. Data dianalisis menggunakan ANOVA dilanjut dengan DMRT 5%. Hasil penelitian percobaan I konsentrasi giberelin tidak berpengaruh terhadap perkecambahan. Percobaan II terdapat interaksi antara konsentrasi giberelin dan dosis $CaCO_3$ terhadap persentase gabah isi per malai, persentase gabah hampa per malai, bobot GKG per malai, dan bobot 100 butir. Kombinasi perlakuan terbaik pada konsentrasi 200 GA_3 ppm & $CaCO_3$ 12 gr/polybag (G3K3). Perlakuan konsentrasi giberelin tidak berpengaruh nyata pada variabel tinggi tanaman, jumlah anakan, dan panjang malai demikian pula pada perlakuan dosis $CaCO_3$.

Kata kunci: giberelin, CaCO3, perkecambahan, pertumbuhan, hasil padi

THE EFFECT OF GIBBERELLIN CONCENTRATION (GA_3) AND DOSAGE OF $CaCO_3$ ON STORED SEEDS ON GERMINATION, VEGETATIVE GROWTH, AND RICE PRODUCTION
(Oryza sativa L.)

***By*: Michelle Shandiana**

Supervised by: Ami Suryawati *and* Endah Wahyurini

ABSTRACT

Germination of rice seeds with low viability can be increased by gibberellin immersion treatment. Calcium in CaCO3 is beneficial for vegetative growth and plant yields. The research objectives were (1) to determine the effect of gibberellin concentrations on germination and (2) to determine the interaction between gibberellin concentrations and CaCO3 doses on vegetative growth and yield. Research using RAL with 2 experiments. Experiment I: effect of gibberellin concentration on seed germination (0, 150, 200, 250 ppm) repeated 5 times. Experiment II: treatment of gibberellin concentration as the first factor and dose of CaCO3 as the second factor (0, 6, 12 g/polybag) with 3 replications on the vegetative growth and yield of rice plants. Data were analyzed using ANOVA followed by 5% DMRT. The results of the first trial of gibberellin concentration did not affect germination. In Experiment II, there was an interaction between gibberellin concentrations and CaCO3 doses on the percentage of filled grain per panicle, the percentage of empty grain per panicle, the weight of GKG per panicle, and the weight of 100 grains. The best treatment combination was at a concentration of 200 GA3 ppm & CaCO3 12 gr/polybag (G3K3) for the percentage of filled grain per panicle, the weight of the GKG per panicle, and the weight of 100 grains. Treatment of gibberellin concentrations did not significantly affect plant height, number of tillers, and panicle length, as well as treatment of CaCO3 doses.

***Keywords*:** *gibberellin, CaCO3, germination, plant growth, yield of rice plant*